

AMENDMENTS TO THE SPECIFICATION:

Please amend the heading beginning at page 1, line 12, as follows:

~~BACKGROUND OF THE INVENTION~~

Please amend the heading beginning at page 4, line 1, as follows:

~~SUMMARY OF THE INVENTION~~

Please amend the paragraph beginning at page 4, line 2, as follows:

One object of the present invention is to provide a solution to the problem discussed above. This and other objects are obtained according to the present invention by providing a system, a method and a computer readable medium having the features defined in the independent claims.

Preferred example embodiments are defined in the dependent claims.

Please amend the paragraph beginning at page 4, line 12, as follows:

According to a first aspect of the present invention, there is provided a system for presenting and distributing information related to a medication of a patient comprising a terminal device communicating with a wireless communication system, and a medicament device including a medicament containing means arranged to hold a medicament; a dispensing mechanism arranged for dispensing medicament from the medicament containing means; means for obtaining information related to the medication of a patient; and a communication device for wireless communication to enable transfer of data related to the information from the medicament device to a terminal device comprising, inter alia, means for receiving the data from the communication

device and being arranged to present information related to the medication of the patient to a user.

Please amend the paragraph beginning at page 4, line 25, as follows:

According to a second aspect of the invention, there is provided a method of presenting information related to a medication of a patient in a system comprising a terminal device communicating with a wireless communication system, and a medicament device including a medicament containing means arranged to hold a medicament; a dispensing mechanism 30 arranged for dispensing medicament from the medicament containing means; means for obtaining information related to the medication of a patient; and a communication device for wireless communication to enable transfer of data related to the information from the medicament device to a terminal device. The method comprising the step of utilizing the terminal device to present information related to the medication of the patient to a user.

Please amend the paragraph beginning at page 5, line 6, as follows:

According to a further aspect of the invention there is provided a computer readable medium comprising instructions for bringing a programmable device to perform the method according the second aspect of the invention.

Please amend the paragraph beginning at page 5, line 10, as follows:

Thus, the present invention is based on the idea of using the functionality of a terminal device such as a cellular or a mobile phone or a PDA, i.e. a palmtop, a palm pilot, or the like, to present,

in a system for presenting and distributing information related to a medication of a patient, information related to the medication of a patient to a user of the terminal device. By utilizing the in-built functionality of a terminal device, for example, the display and the key-set or key-pad to provide the user with medication information, the medicament device in such a system, e.g. an inhaler, an injector device, a tablet dispenser, or the like, can be made small and cheap. This is owing to the fact that instead of incorporating the components necessary to provide medication compliance information functions in the medicament device, the in-built components of a terminal device, for instance a cellular phone, are used for presenting information of different types.

Please amend the paragraph beginning at page 6, line 1, as follows:

Accordingly, the ~~present invention~~ technology is suitable for use in a number of areas related to the medication compliance, for example, contraception supervision, allergy medication, medication related to cardiac diseases, medication related to asthma, medication related to COPD (chronic obstructive pulmonary disease), pain relief, mental illnesses or other time critical medication regimes, as well as at clinical studies where the results often depend completely or to a large extent on the ability of the participants of the study to comply with the time schedule for taking the medication.

Please amend the paragraph beginning at page 6, line 22, as follows:

According to preferred example ~~embodiments of the present invention~~, medication information is obtained from the medicament device by the means for obtaining information related to the medication, which information may be, inter alia, dosage information or timing information.

Subsequently, the information is transferred to a terminal device from the medicament device via the communication device. Thereby, it is possible to present medical compliance information to the user, e.g. the patient, of the occurrence or absence of medication events related to the medicament device using the terminal device.

Please amend the paragraph beginning at page 7, line 1, as follows:

~~According to the present invention, the~~ The user is notified of an event related to the medication by using the functionality of a terminal device, e.g. a cellular phone. Thereby, it is possible to, for example, remind the user that he or she has forgotten to take the medication or that he or she has not taken the proper medication, or the proper medication in time.

Please amend the paragraph beginning at page 7, line 7, as follows:

According to preferred example embodiments, the user is notified of the occurrence of an event related to the medication through means for notifying selected from the group consisting of means for providing audible signals, visualizing means, vibration means, and light means.

Please amend the paragraph beginning at page 7, line 12, as follows:

~~The means for providing audible~~ Audible signals may be provided, for example, a speaker phone of a cellular phone, which is able to notify the user by producing an audible signal. In order to increase the medication compliance a specific signal, for example, a characteristic tune, may be selected. Thereby, the user is able to directly recognize the signal. The visualizing means may be, for example, a display comprising a screen such as an LED or LCD. If a cellular phone is utilized the user may be notified, for example, by an evident symbol, or a message, or an

instructive sequence of pictures, or a film sequence shown on the display. If a cellular phone is used, the vibration means may be, for example, a vibration unit. The user is notified by a vibration of the unit. This is advantageous in noisy environments such as a subway or in a restaurant. The light means may be, for example, a diode or the display of a cellular phone.

Please amend the paragraph beginning at page 8, line 7, as follows:

Furthermore, the user is notified by ~~means of~~, for example, an SMS message, an MMS message, or the like.

Please amend the paragraph beginning at page 8, line 26, as follows:

According to other example embodiments, the communication device of the medicament device is arranged for two-way transfer of data between a terminal device and the medicament device. Thereby, medication data from the terminal device may be transmitted to the communication device of the medicament device. Furthermore, data or information can be transmitted or transferred to the medicament device from terminal device. For example, a receipt of acknowledge can be transferred from the terminal device upon a succeeding transfer of information between the medicament device and terminal device to, for example, the medicament device, to a third party, such as a healthcare physician of the patient via the network computer system, to the other terminal device if two terminal devices are associated 5 with one medicament device, or combinations thereof. This receipt of acknowledge can either be sent automatically upon receipt of the information or by a manual operation of the user of the terminal device.

Please amend the paragraph beginning at page 9, line 9, as follows:

According to one ~~exemplifying example~~ embodiment of the present invention, the terminal device is connected to a network computer system via said wireless communication system. The network computer system may comprise a public access network computer system. The Internet is one suitable example of a public access network computer system, wherein the point of access thereto can be any suitable entry-point including an entry-point managed by an internet service provider. The public access network may also form part of a telecommunications system, which may itself be either a cellular system, an optical network or a wire network. Furthermore, the network computer system may comprises a private access network computer system of a medical centre or a medicament prescriber, for example a doctor's practice, of a patient using a medicament device of the system according to the present invention. The private access network system may for example comprise an Intranet or Ethernet which may for example, be maintained by a health service producer, a service provider, a pharmacy, or, as in this embodiment, a medical centre.

Please amend the paragraph beginning at page 10, line 27, as follows:

According to example ~~embodiments of the present invention~~, the medicament device comprises a memory for storage of data related to the medication. The memory may comprise a non-volatile memory chip (e.g. an EEPROM or FLASH memory chip) which is capable of storing data, for example, when the transfer of data from the medicament device and the terminal device is disturbed, or during a predetermined period of time, for example during a clinical test.

Please amend the paragraph beginning at page 11, line 16, as follows:

According to example embodiments of the present invention, a communication device can be arranged to communicate with at least two terminal devices.

Please amend the paragraph beginning at page 11, line 22, as follows:

As realized by the person skilled in the art, ~~the method of the present invention, as well as preferred embodiments thereof, is suitable to realize~~ technology may be realized or implement implemented as a computer program or a computer readable medium, for instance within the contents of a terminal device, such as a cellular phone, an/or a medicament device, as well as within a public or a private access network computer system of a network computer system.

Please amend the paragraph beginning at page 11, line 29, as follows:

Further objects and advantages ~~of the present invention will be discussed below by means of~~ exemplifying embodiments.

Please delete the paragraph beginning at page 12, line 1, which starts with:

Preferred embodiments of the...

Please amend the paragraph beginning at page 12, line 4, as follows:

Fig. 1a schematically shows a block diagram of the relevant parts of a medicament device suitable for use in a method and a system ~~according to the present invention;~~

Please amend the paragraph beginning at page 12, line 7, as follows:

Fig. 1b schematically shows an example embodiment of the medicament device shown in fig. 1a suitable for use in a method and a system ~~according to the present invention;~~

Please amend the paragraph beginning at page 12, line 10, as follows:

Fig. 1c schematically shows another example embodiment of the medicament device shown in fig. 1a suitable for use in a method and a system ~~according to the present invention;~~

Please amend the paragraph beginning at page 12, line 13, as follows:

Fig. 1d schematically shows yet another example embodiment of the medicament device shown in fig. 1a suitable for use in a method and a system ~~according to the present invention;~~

Please amend the paragraph beginning at page 12, line 16, as follows:

Fig. 2 schematically shows an example embodiment of a system for presenting and distributing information related to a medication of a patient ~~according to the present invention;~~

Please amend the paragraph beginning at page 12, line 19, as follows:

Fig. 3 schematically shows a preferred example embodiment of a method for presenting and distributing information related to a medication of a patient in the system disclosed in fig. 2;

Please amend the paragraph beginning at page 12, line 22, as follows:

Fig. 4 schematically shows a second example embodiment of a system for presenting and distributing information related to a medication of a patient ~~according to the present invention;~~
and

Please amend the paragraph beginning at page 12, line 25, as follows:

Fig. 5 schematically shows an example embodiment of a method for presenting and distributing information related to a medication of a patient in the system disclosed in fig. 4;

Please amend the heading beginning at page 12, line 29, as follows:

~~DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT~~

Please amend the paragraph beginning at page 12, line 30, as follows:

In the following there will be disclosed preferred example embodiments of the system and the method for presenting and distributing information related to a medication of a patient ~~in accordance with the present invention.~~

Please amend the paragraph beginning at page 13, line 4, as follows:

With reference first to fig. 1a, a schematically block diagram of the relevant parts of a medicament device suitable for use in a method and a system ~~according to the present invention~~
~~is shown.~~

Please amend the paragraph beginning at page 13, line 22, as follows:

Furthermore, the medicament device 100 comprises a memory 114 for storage of information related to the medication and medication events. The memory comprises a non-volatile memory chip (e.g. an EEPROM or FLASH memory chip) which is capable of storing the information, for example, when the transfer of data from the medicament device and the terminal device is disturbed, or during a predetermined period of time. ~~Preferable~~Preferably, the medicament device is also provided with a power source (not shown) so as to powering the electrical components, e.g. the communication device 108. A suitable power source is a battery, clockwork energy store, solar cell, fuel cell or kinetics-driven cell. The power source may be arranged to be rechargeable or re-loadable. In addition, the medicament device 100 may be fitted with light elements 116, for example, one or more diodes.

Please amend the paragraph beginning at page 14, line 4, as follows:

With reference now to fig. 1b, a schematic diagram of an example embodiment of the medicament device shown in fig. 1a suitable for use in a method and a system ~~according to the present invention~~ will be shown. The medicament device shown in fig. 1b is an inhaler. Since use and the structure of an inhaler are well known to the man skilled in the art, ~~for what reason only certain parts or components being relevant for the present invention~~ will be described in detail.

Please amend the paragraph beginning at page 16, line 8, as follows:

Referring now to fig. 1c, a schematic diagram of ~~a another~~ example embodiment of the medicament device shown in fig. 1a ~~suitable for use in a method and a system according to the~~

~~present invention~~ will be shown. The medicament device shown in fig. 1c is an injector. Since use and the structure of an injector are well known to the man skilled in the art, ~~for what reason~~ only certain parts or components ~~being relevant for the present invention~~ will be described in detail.

Please amend the paragraph beginning at page 16, line 31, as follows:

Turning now to fig. 1d, a schematic diagram of yet another example embodiment of the medicament device shown in fig. 1a ~~suitable for use in a method and a system according to the present invention~~ will be shown. The embodiment shown in fig. 1d is a tablet dispenser. Since use and the structure of a tablet dispenser are well known to the man skilled in the art, ~~for what reason~~ only certain parts or components ~~being relevant for the present invention~~ will be described in detail.

Please amend the following paragraph beginning at page 17, line 24, as follows:

With reference now to fig. 2, a schematic diagram of a first example embodiment of a system for presenting and distributing information related to a medication of a patient ~~in accordance with the present invention~~ will be shown. The system 200 comprises a terminal device 210 capable of communicating with a wireless communication system (not shown) and comprising medication compliance information functions. Preferably, the terminal device 210 is a telecommunication device, more preferably a cellular phone. Alternatively, the terminal device can be a PDA.

Please amend the paragraph beginning at page 19, line 7, as follows:

Of course there are other conceivable embodiments ~~of the system according to the present invention~~. For example, an arbitrary number of medicament devices may be connected to a specific terminal device, each medicament device being associated with one user or patient. If two medicament devices are included in the system and connected to one terminal device a member of a nursing staff may, thereby, readily be notified of the medical compliance of two different patients or more.

Please amend the paragraph beginning at page 19, line 15, as follows:

Referring now to fig. 3, a preferred but non-limiting method of presenting information related to a medication of a patient in a system according to the first embodiment ~~of the present invention~~ will be described. At step 301, a medication event is observed and/or registered by the means for obtaining information related to the medication. To this end, the means for obtaining information constantly monitors the dispensing of medicaments in order to register events, or the absence of events, related to the dispensing of the medicament. A medication event may be, for example, that the patient using the medicament device 220 takes a wrong amount of the medicament or forgets to take the medication. As an alternative, the information or data related to the medication event can be stored in the memory of the medicament device 220. For example, the information related to a predetermined number of events may be stored, or the information related to all events occurring during a predetermined period of time may be stored.

Alternatively, the information related to the medication events may be stored only if the communication device 230 for some reason was not able to transfer the information related to the event or events.

Please amend the paragraph beginning at page 21, line 8, as follows:

Of course, there are ~~a plurality of~~ other conceivable methods and the above embodiment should be considered only as an exemplification. As realized by the person skilled in the art, the above method, as well as preferred embodiments thereof, is suitable to realize or implement as a computer program or a computer readable medium.

Please amend the paragraph beginning at page 21, line 14, as follows:

With reference now to fig. 4, a schematic diagram of a second example embodiment of the system ~~according to the present invention~~ will be shown. The system 400 comprises a terminal device 410 as described above and a medicament device 420 adapted for the delivery of a medicament to a patient (not shown) as described with reference to anyone of the figs. 1a, 1b, 1c, or 1d. The medicament device 420 includes a communication device 430, which is able to communicate with the terminal device 410 using radiofrequency signals, for example, spread spectrum radiofrequency signals. As indicated above, a suitable spread spectrum protocol is the Bluetooth. Moreover, the communication device 430 may be arranged for two-way transfer of information, which is represented by the arrows 440 and 450, respectively. Accordingly, the terminal device 410 can, in addition to receive information from the communication device 430, transfer information to the communication device 430.

Please amend the paragraph beginning at page 22, line 24, as follows:

Referring now to fig. 5, ~~an~~ a non-limiting embodiment of a method of presenting information related to a medication of a patient in a system according to the second embodiment ~~of the~~

~~present invention~~ will be described. At step 501, a medication event is observed and/or registered by the means for obtaining information related to the medication. To this end, the means for obtaining information constantly monitors the dispensing of medicaments in order to register events related to the dispensing. A medication event may be for example, that the patient using the medicament device 420 has forgotten to take the medication or that he or she has not taken the proper medication.

Please amend the paragraph beginning at page 25, line 1, as follows:

Although specific example embodiments have been shown and described herein for purposes of illustration and exemplification, it is understood by those of ordinary skill in the art that the specific embodiments shown and described are not limiting and may be substituted for a wide variety of alternative and/or equivalent implementations ~~without departing from the scope of the present invention~~. Those of ordinary skill in the art will readily appreciate that the methods ~~of the present invention~~ could be implemented in a wide variety of embodiments, including hardware and software implementations, or combinations thereof. This application is intended to cover any adaptations or variations of the ~~preferred~~ embodiments discussed herein. ~~Consequently, the~~ The present invention is defined solely by the wording of the appended claims and equivalents thereof.